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of the reindeer. All that has been described in detail by Mr. Bogoras.[1] I shall confine myself, therefore, to giving some additional information and to indicating some points of difference.

Food of Reindeer. — In summer, as is well known, the reindeer like fresh grass, especially the young sprouts of reed-grass, the leaves of the birch, willow, and poplar, as well as mushrooms. In winter they feed exclusively on lichens;[2] but wherever the horse-tail (*Equisetum scirpoides* Mich.[3]) is to be found, they readily eat it in the winter as well, and frequently prefer it to lichens. But this low-growing weed is found only in certain localities, — in the sandy valleys of mountain-streams, where, in some places, it thickly covers large areas. In spite of the fact that in winter it is covered up with snow, the reindeer discover it by their sense of smell, as they do the lichen. More than once in the winter, I had an opportunity to see, in the mountain-valleys between the Indighirka and Yana Rivers, how ravenously the reindeer devoured that plant. The Tungus told me that they fatten on it, the same as do horses. It retains its juice throughout the winter, and does not dry up like grasses. During the winter the reindeer in the woods also eat lichens growing on trunks of trees.

When the reindeer feed exclusively on lichens, they acquire a special longing for the urine of human beings. This longing attracts them to human habitations. Fig. 63 represents a vessel (qoya'-oča'-lăn, which signifies "the reindeer's night-chamber") made of seal-skin, which every herdsman carries suspended from his belt, and of which he makes use whenever he desires to urinate, that he may keep the urine as a means of attraction in capturing refractory reindeer. Quite frequently the reindeer come running to camp from a far-off pasture to taste of snow saturated with urine, a delicacy to them. The reindeer have a keen sense of hearing and of smell, but their sight is rather poor. A man stopping to urinate in the open attracts reindeer from afar, which, following the sense of smell, will run to the urine, hardly discerning the man, and paying no attention to him. The position of a man standing up in the open while urinating is rather critical when he becomes the object of attention from reindeer coming down on him from all sides at full speed.

Fig. 63 ($\frac{11}{3177}$). Vessel made of Seal-Skin. Length, 15 cm.

While subsisting exclusively on lichens, the reindeer develop also a liking for animal food. This peculiarity has been noticed by many travellers. It

[1] Bogoras, The Chukchee, Vol VII of this series, pp. 80—95.
[2] See p. 399.
[3] See p. 386.

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dwell on their description. Among the wealthy Koryak, imported earthenware or enamelled iron plates may be found.

Fig. 106 represents a small wooden bucket with a lid, for picking berries. It is hollowed out in the same way as the large water-buckets, but it is furnished with two alder hoops, a lid, and a carrying-strap.

The chamber-vessel (Fig. 107) is an indispensable part of the household goods. The Koryak do not go out of doors at night to void urine, while children even go to stool indoors. The chamber-vessel is hollowed out of an aspen or poplar tree. It is usually made with the brim bent inward to

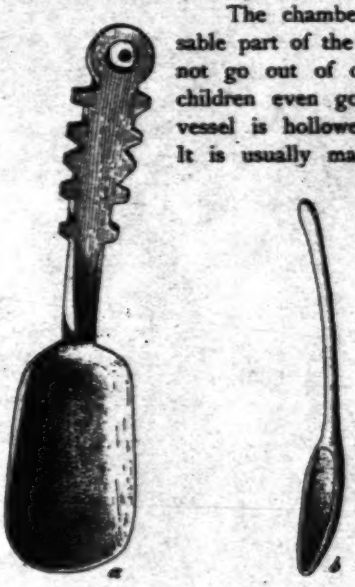

Fig. 105. *a* ($\frac{1}{11}$), Spoon made of Horn of Mountain-Sheep (Length, 20 cm.); *b* ($\frac{1}{11}$), Bone Teaspoon (length, 15 cm.).

Fig. 106 ($\frac{1}{11}$). Wooden Bucket Height, 26 cm.

prevent the contents from spilling when the vessel is carried up the ladder of the underground house. The Reindeer Koryak keep it in the corner of the inner sleeping-tent, and its shape prevents its being upset by sleepers. If the vessel is full, the mistress raises the edge of the front side of the tent and pours the contents out into the outer tent. In the morning the women carry it out of doors and pour the urine on the snow, which then attracts the reindeer.[1] Instead of

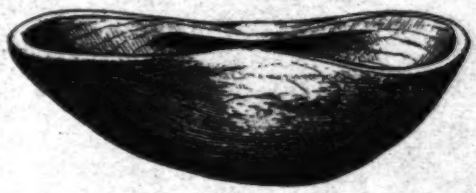

Fig. 107 ($\frac{1}{11}$). Chamber-Vessel. Length 39 cm.

[1] See p. 483.

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514 177 556 Instead of a wooden chamber-vessel, rich reindeer-breeders use imported brass wash-basins. Once when I had to remain over night at the tent of a wealthy reindeer-breeder, I had to sleep in the same tent with the proprietors. As soon as I entered the inner tent, and before I had had time to warm up and drink my tea, the host, as a special mark of courtesy, brought in the brass basin and placed it in the corner of the tent.

262 ANIMAL FOOD. — Animal food is the principal, if not the exclusive nourishment of the Koryak, particularly of the Reindeer Koryak, who use less vegetable food than do the Maritime people. Animal food consists of fish, sea-mammals, reindeer, mountain-sheep, bears, birds, and shell-fish.

262 252 Fish, fresh and sun-dried, is the main food of the Maritime Koryak. During the summer and autumn, boiled fresh fish is eaten. The people are also fond of frying fresh fish on spits. Heads of fish are eaten raw, the cartilages being considered dainties. In winter, fish is eaten both cooked and raw. Raw fish is eaten frozen and sliced into thin chips. The eating of frozen fish is, however, much more widespread among the Arctic tribes west of the Stanovoi Ridge and among the Russians.

251 Dried fish (called by the Russian settlers "yukola") is prepared by the women on the river-bank or seashore during the summer fishing-season, and is preserved for winter use. Plate XXX, Fig. 2, shows how the women cut fresh dog-salmon for drying it in the sun. First the head is cut off, which is dried separately. Then the maw is ripped open with a knife, and the entrails are taken out. The roe is dried separately, and the flesh is cut in broad strips along both sides of the backbone. These strips remain joined at the tail, and are thus hung over the poles of the drying-frames. On sunny days the drying proceeds very fast. In three or four days the yukola is ready. In clear weather the preliminary drying is done on open drying-frames, as shown on Plate XXXI. When dry, the yukola is taken off from the drying-frames and hung under the platform of the storehouse. In autumn, when the nights are cold, and there is no danger of rot being caused by dampness, the dried fish are piled up and placed in the storehouse. The sun-dried fish is covered with a dry crust, beneath which the flesh remains soft, and the fat is preserved; but the process of air-drying rarely goes on without trouble. On hot days, in the absence of winds, numerous large flies settle on the fish, and lay their eggs. After two or three days, larvæ come out, which devour the juicy part of the yukola, and leave only a thin, dry, and tasteless layer on the skin. The preparation of the yukola fares still worse if foggy and rainy days prevail during the period of the main catch. Though hung up under special platforms or under the platform of the storehouse, the sliced fish does not dry, but begins to decompose, and the decaying pieces become detached from the skin and fall to the ground; so that in a wet summer, even when the catch of fish has been excellent, the Koryak

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Like certain other vegetable poisons, as opium and hasheesh, the alkaloid of fly-agaric produces intoxication, hallucinations, and delirium. Light forms of intoxication are accompanied by a certain degree of animation and some spontaneity of movements. Many shamans, previous to their seances, eat fly-agaric in order to get into ecstatic states. Once I asked a Reindeer Koryak, who was reputed to be an excellent singer, to sing into the phonograph. Several times he attempted, but without success. He evidently grew timid before the invisible recorder; but after eating two fungi, he began to sing in a loud voice, gesticulating with his hands. I had to support him, lest he fall on the machine; and when the cylinder came to an end, I had to tear him away from the horn, where he remained bending over it for a long time, keeping up his songs.

Under strong intoxication, the senses become deranged; surrounding objects appear either very large or very small, hallucinations set in, spontaneous movements, and convulsions. So far as I could observe, attacks of great animation alternate with moments of deep depression. The person intoxicated by fly-agaric sits quietly rocking from side to side, even taking part in the conversation with his family. Suddenly his eyes dilate, he begins to gesticulate convulsively, converses with persons whom he imagines he sees, sings, and dances. Then an interval of rest sets in again.

However, to keep up the intoxication, additional doses of fungi are necessary. Finally a deep slumber results, which is followed by headache, sensations of nausea, and an impulse to repeat the intoxication. If there is a further supply of fungi, they are eaten. At the beginning of winter, when the supply is still large, old men begin their carousals. In Kuel there are two elders of the Paren clans,[1] and during my sojourn in that village I was sometimes unable to hold conversation with either of them for days at a time. They were either intoxicated by the fungi or in a bad mood from the after-effects. At the same season the Reindeer Koryak resort to the coast settlements to purchase and eat fly-agaric. To regale a guest with fly-agaric is a sign of special regard. Dr. Slunin says a small glass of brandy or diluted alcohol serves as a splendid antidote in cases of fly-agaric poisoning.[2]

There is reason to think that the effect of fly-agaric would be stronger were not its alkaloid quickly taken out of the organism with the urine. The Koryak know this by experience, and the urine of persons intoxicated with fly-agaric is not wasted. The drunkard himself drinks it to prolong his hallucinations, or he offers it to others as a treat. According to the Koryak, the urine of one intoxicated by fly-agaric has an intoxicating effect like the fungus, though not to so great a degree. I remember how, in the village of Paren, a company of fly-agaric eaters used a can in which California fruit had been put up, as a beaker, into which the urine was passed, to be drunk

[1] See p. 437. [2] Slunin, I, p. 654.

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afterwards. I was told of two old men who also drank their own urine when intoxicated by brandy, and that the intoxication was thus kept up.

From three to ten dried fungi can be eaten without deadly effect. Some individuals are intoxicated after consuming three. Cases of death rarely occur. I was told of a case in which a Koryak swallowed ten mushrooms without feeling their effect. When he swallowed one more, vomiting set in, and he died. In the opinion of the Koryak, the spirits of the fly-agaric had choked him.[1] They related that these spirits had come out with the matter vomited, in the shape of worms, and that they vanished underground.

The Koryak were made acquainted with brandy by the Russians and by American whalers. Despite the prohibition issued by the Russian Government against the importation of brandy, it often finds its way in winter into the Koryak villages and camps, being taken there on trading-trips by Russian merchants. Whalers take it to the coast settlements in summer. Like all other primitive tribes, the Koryak are passionate consumers of brandy, and dealers often obtain an arctic or red fox in exchange for one wineglassful of brandy. To my question as to which they preferred, brandy or fly-agaric, many Koryak answered, "Fly-agaric." Intoxication from the latter is considered more pleasurable, and the reaction is less painful, than that following brandy. Like fly-agaric, brandy is drunk chiefly by elderly men. Old people do not give it to the young, that they themselves may not be deprived of the pleasure; and if young people or women happen to obtain brandy, they frequently give it up to the older members of the family. Two herd-owners whom I met on the Palpal were entirely unacquainted with this drink. Some Koryak in the coast villages have learned from the Russian Cossacks how to make brandy of bleaberries. They subject the berries to fermentation, and by means of a pipe distil the liquid from one iron kettle into another, the latter serving as a refrigerator. The result is a rather strong liquor of such disgusting taste and odor that the mere attempt to taste it nauseated me. Krasheninnikoff[2] says that the Cossacks in Kamchatka and, following their example, the Kamchadal, distilled brandy from "sweet grass" (*Heracleum sphandilium*).

MEALS. — The Koryak are rather moderate in their use of food. Such gluttons as are seen among the Yakut are rarely found among them. They eat twice a day — in the morning, soon after rising; and at night, before going to bed. If the food-supply is abundant, they take a light third meal in the middle of the day. The Reindeer Koryak usually eat reindeer-meat both morning and evening; while the Maritime Koryak generally eat sun-dried fish in the morning, and seal-meat, if there be any on hand, in the evening. In general, the principal meal is taken in the evening. The habit of eating heartily before bedtime is widespread throughout northern Siberia.

[1] On the religious attitude towards fly-agaric, see Part I, p. 130.

[2] Krasheninnikoff, II, p. 406.

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291 combination-suit only. Hence the question arises, whether the modesty of the Koryak women in this regard is a result of the influence of the Russians, 831 or whether it is due to the fact that the sexual relations of the Koryak differ from those prevailing among the Kamchadal and Chukchee,[1] and bring about different standards of modesty.

When feeling warm or while working, the Koryak women take the right hand out of the combination-dress and let the empty sleeve dangle down under the upper garment. At home the Koryak women always wear the

Fig. 120 ($\frac{1}{11}\frac{1}{7}$). Fur Jacket, Russian Style.

Fig. 121. Man's Winter Trousers.

combination-dress that way. The end of the sleeve is seen hanging down under the skirts of the coat. There are no other openings in the combination-suit save the one in the top of the bodice for getting into it, and 514 those at the insteps for the feet. To satisfy the demands of nature the Koryak woman has to free her arms from the sleeves and drop the suit down to her feet. The Chukchee women do so openly, while the Koryak women perform this complex operation under the coat. First they take the arms out of the coat-sleeves, then they release the arms from the sleeves of the combination-suit and put them back into the coat-sleeves. Then, when

[1] See Chapter XII.

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sitting down, they fold the sleeves over their knees. In the Koryak villages or camps, women may often be seen sitting down in this fashion and keeping up their conversation with their companions or with the men. The coat-skirts touch the ground, and give to the women who are thus sitting down an entirely careless and easy appearance. When rising, they re-adjust their suits almost unnoticeably to an observer.

While travelling, wealthy Koryak wear over the fur coat a wide shirt with a hood of plain curried or smoked reindeer-skin or of flannel or chintz. The outer shirt protects from the wind and preserves the fur clothing from snow, which, on melting, would soak into the hair and cause it to fall off. An overcoat of gaudy chintz, flannel, or other imported goods, has now become an article of smart dress. For overcoats the wealthy reindeer-breeders buy imported red broadcloth at high prices. Thus a yard of the coarsest red broadcloth frequently brings one cross-fox in exchange.

Fig. 120 represents a coat made of reindeer-skins, in the style of a jacket with an opening in front. It was purchased by me from the Reindeer Koryak on the Taigonos Peninsula. Coats of this pattern are found in other places as well, though very rarely, and seem to be an imitation of the Russian style. They differ from the Tungus coats in that the lapels come together, while in the Tungus coats they are cut like those of a cutaway coat.

Men's Winter Trousers. — The winter trousers are double, like the coat (Fig. 121). The outer ones are made of shaggy skins of older fawns. The trousers have no belt. Along the top edge a hem of skin is sewed on, through which a string passes for drawing them tight. In front they cover only the lower part of the abdomen, about the groins; in the back they are cut a little higher, and reach to the upper rim of the pelvis. The trousers have a tendency to slip down, and a Koryak may often be seen raising his trousers with a movement of the hand along the coat. There is no slit in front for voiding urine. There is no need of such a slit, because the border of the trousers comes very low down on the abdomen. In front, where the draw-string is pulled tight, a flap of skin is either pulled up underneath it, above the upper border of the trousers, or it is turned in over the draw-string to keep it from cutting the abdomen. Men's trousers are quite tight-fitting. Narrowing down, they reach a little below the calves, and are drawn together about the legs with draw-strings, just as they are around the waist. The legs of the fur boots are tied over the trousers. The Reindeer Koryak, especially on the Palpal, wear wide winter trousers cut like those of the Chukchee, which reach down to a little above the ankles, and are tied over the short-legged shoes.

Fig. 122 represents a man's winter trousers, with boots sewed on. Such trousers are rarely met with, and are either imitations of a foreign type or relics of an older fashion. Among the Yukaghir may be found boots with